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EXAMINER

HIGGINS, GERARD T

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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07/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,738	Applicant(s) MASAYUKI ET AL.	
	Examiner GERARD T. HIGGINS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/02/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to applicants' Information Disclosure Statement filed 07/02/2009, the finality of the last Office action is withdrawn.
2. Applicants' amendment has been entered. Currently claims 1, 2, 4-10, and 12-15 are pending and claims 3 and 11 are cancelled.

Claim Rejections - 35 USC § 102

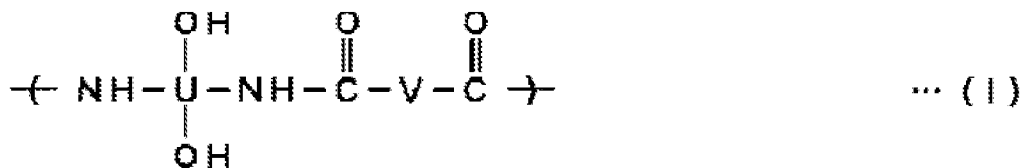
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

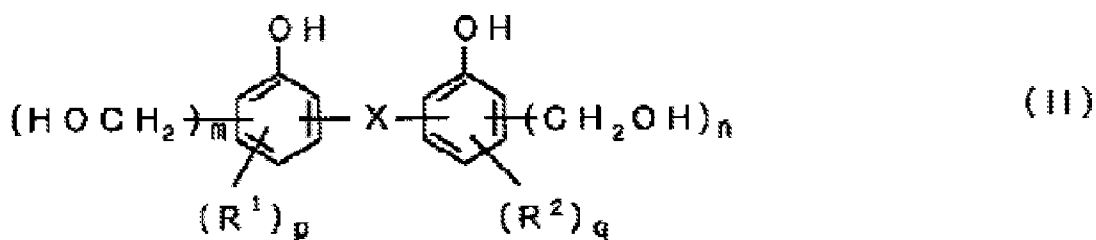
4. Claims 1, 2, 4-10, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Tadayuki et al. (JP 2000-305268), machine translation included.

With regard to claim 1, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



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a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 1 or 2 [0009]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0042]. This means that the Examiner clearly envisages Tadayuki et al. at least disclosing a 1,1,1,3,3,3-hexafluoropropyl group, which anticipates applicants' claim 1.

With regard to claim 2, given the disclosure of Tadayuki et al. the Examiner clearly envisages 2,2-bis[3,5-bis(hydroxymethyl)-4-hydroxyphenyl]-1,1,1,3,3,3-hexafluoropropane as claimed.

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0039] and the component (c) may be 1-30 parts by weight to component (a) [0051].

With regard to claim 5, there may be a component (d) identical to that claimed [0052].

With regard to claim 6, the composition of component (d) is identical to that claimed [0054].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0039], the component (c) may be 1-30 parts by weight to component (a)

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[0051], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0057].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0061] and [0062]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0062], a development process, and then a heat-treating process [0061].

With regard to claim 9, see claim 15 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

With regard to claims 12 and 13, the amount of component (c) is disclosed at [0051] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0062], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0063], including 150-450 degree range identical to that claimed.

Claim Rejections - 35 USC § 103

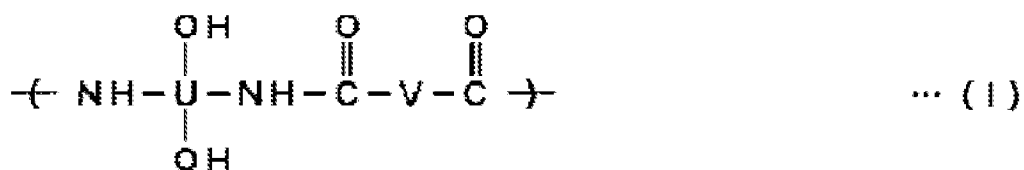
5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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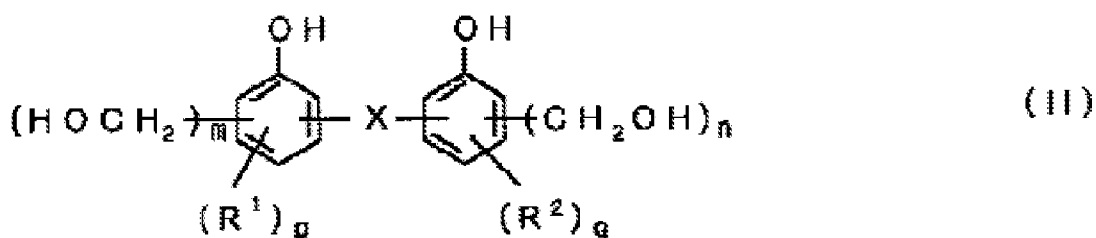
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 4-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayuki et al. (JP 2000-305268), machine translation included.

With regard to claims 1 and 2, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 1 or 2 [0009]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0042]. While the Examiner maintains that the Formula (II) of applicants' claim 1 and the specific compound of claim 2 are clearly envisaged (see section 4 above), the Examiner notes that Tadayuki et al. do not specifically disclose an embodiment where

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'p' and 'q' are zero, a alkylidene group as 'X' that has been perfluorinated (i.e. R¹ and R² are a perfluoroalkyl of from 1 to 3 carbon atoms), or the specific compound of claim 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made any of the compounds disclosed by Tadayuki et al. including a compound having 'p' and 'q' equal to zero, an alkylidene group as 'X' of from 3 to 7 carbon atoms that has been perfluorinated (i.e. R¹ and R² are a perfluoroalkyl of from 1 to 3 carbon atoms), or 2,2-bis[3,5-bis(hydroxymethyl)-4-hydroxyphenyl]-1,1,1,3,3,3-hexafluoropropane as claimed. The motivation for making any of the compounds of Tadayuki et al. is to have a compound that would have increased sensitivity, increase heat resistance, and increase the dissolution rate of an exposed part of the photoresist material [0041].

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0039] and the component (c) may be 1-30 parts by weight to component (a) [0051].

With regard to claim 5, there may be a component (d) identical to that claimed [0052].

With regard to claim 6, the composition of component (d) is identical to that claimed [0054].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0039], the component (c) may be 1-30 parts by weight to component (a) [0051], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0057].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0061] and [0062]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0062], a development process, and then a heat-treating process [0061].

With regard to claim 9, see claim 15 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

With regard to claims 12 and 13, the amount of component (c) is disclosed at [0051] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

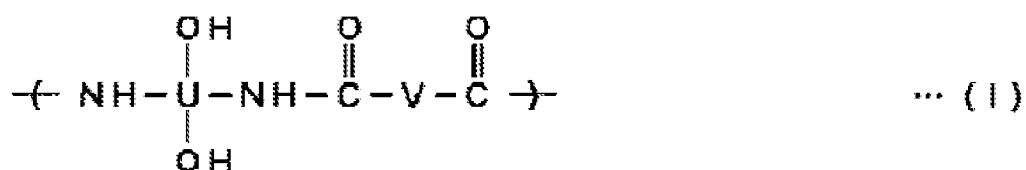
With regard to claim 14, Tadayuki et al. disclose the developing solution at [0062], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0063], including 150-450 degree range identical to that claimed.

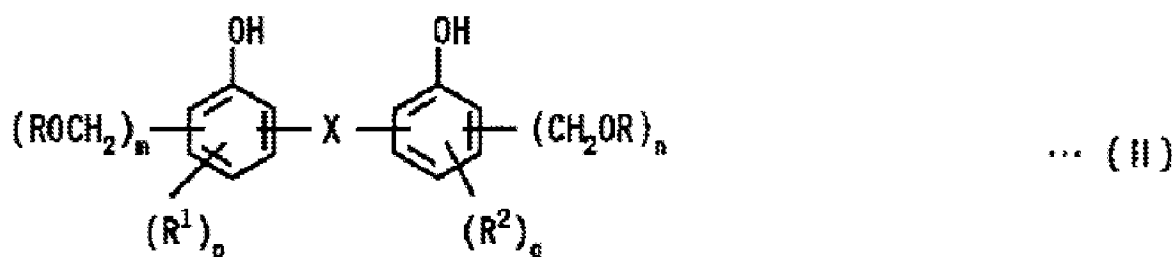
7. Claims 1, 2, 4-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayuki et al. (JP 2001-312063) in view of Matsuishi et al. (US 2003/0204117), as evidenced by Tadayuki et al. (JP 2000-305268).

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With regard to claims 1 and 2, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 1 or 2 [0009]. The substituent 'X' may be a propylene group or of the type of an alkylidene group, and all of the substituents on said group may be made to be fluorine atoms [0038]. The Examiner clearly envisages that Tadayuki et al. disclose a 1,1,1,3,3,3-hexafluoropropyl group, which reads on applicants' claim 1; however, they fail to disclose a crosslinker, component (c), that is comprised of a 3,5-bis(hydroxymethyl) substituent or that each of the Rs is hydrogen, i.e. hydroxymethyl substituents.

Matsuishi et al. disclose a 3,5-bis(hydroxymethyl) substituted polyfunctional phenols (Abstract). It can be apart of a bivalent group with the substituent 'X' being of General structure (IV), wherein the substituents R₇ and R₈ can each be a trifluoromethyl

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group. Matsuishi et al. disclose that this material is known to be good with photoresist materials [0002] and can provide property-modifying effects, such as improving the water repellency of phenol resins and resistance to heat [0005].

Since Tadayuki et al. and Matsuishi et al. are both drawn to photoresist materials; it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the functional equivalent compound of Matsuishi et al. as the component (c) of Tadayuki et al. These compounds are analogs; further, one of ordinary skill would know to make a series of compounds including the methoxymethyl and hydroxymethyl compounds. The motivation for using this compound in the photosensitive composition is the fact that Matsuishi et al. recognize it as good for photoresists and can provide enhanced water-repellency of resins formed from these compounds.

The Examiner notes that it has been held that “[a]n obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties.” Please see MPEP 2144.09, *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979), *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963), and *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991). Matsuishi et al. disclose compounds that are close in chemical structure; further, they suggest that these compounds will provide heat resistance. The Examiner deems that it would have been obvious to one having ordinary skill in the art to have each ‘R’ of the component (c) be hydrogen as claimed. Given how close in structure “hydroxymethyl”

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and "alkoxymethyl" are, the Examiner has a reasonable basis to find that the modification proposed by the Examiner would have been predictable to one having ordinary skill. The predictability of such a modification is also evidenced by Tadayuki et al. '268, wherein their compounds which comprise hydroxymethyl substituents maintain high sensitivity for a positive-type photoresist polymer composition [0007].

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0036] and the component (c) may be 1-30 parts by weight to component (a) [0041].

With regard to claim 5, there may be a component (d) identical to that claimed [0042].

With regard to claim 6, the composition of component (d) is identical to that claimed [0044].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0036], the component (c) may be 1-30 parts by weight to component (a) [0041], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0047].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0051] and [0052]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0052], a development process, and then a heat-treating process [0051].

With regard to claim 9, see claim 9 of Tadayuki et al., which discloses said i-line.

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With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

With regard to claims 12 and 13, the amount of component (c) is disclosed at [0041] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0052], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0053], including 150-450 degree range identical to that claimed.

Response to Arguments

8. Applicant's arguments filed 07/14/2009 have been fully considered but they are not persuasive.

The IDS filed 07/02/2009 has cited art by the same assignee as the present application and the prior art reference used in the final rejection mailed on 04/14/2009. This reference, Tadayuki et al. (JP 2000-305268), anticipates the current claims, and as such the Examiner has withdrawn finality and rejected the present claims over this reference.

Applicant's arguments, see Remarks, filed 07/14/2009, with respect to the objection to claims 12 and 13, the rejection of claim 14 under 35 U.S.C. 112, first paragraph, and the rejection of claims 12 and 13 under 35 U.S.C. 112, second

paragraph have been fully considered and are persuasive. The relevant objections/rejections have been withdrawn.

Applicants are correct in noting that the claim 1, as amended, can no longer be taught using Tadayuki et al. '063 alone.

Applicants argue that the Declaration filed 07/14/2009 shows unexpected results, in the form of unexpectedly high sensitivity, over the prior art compounds, and therefore the present rejections should be withdrawn.

The Declaration under 37 CFR 1.132 filed 07/14/2009 is insufficient to overcome the rejection of the claims based upon Tadayuki et al. (JP 2001-312063) as set forth in the last Office action because applicants have not compared the closest prior art used in the current rejection. The Examiner clearly envisaged a fluorinated alkylidene group as the central R^1 -C- R^2 moiety of applicants' Formula (II). This is the closest prior art suggested by the Examiner and not a central "methane" group as tested by applicants in their Comparative Examples A and B; furthermore, the Examiner clearly envisaged compounds of Tadayuki et al. that have 'p' and 'q' equal to zero. It is noted that the compounds of applicants' Comparative Examples A and B are not the closest prior art given the fact that these Comparative Examples possess moieties that would have 'p' and 'q' equal to 1.

The Examiner also notes that this Declaration is also ineffective against the current 35 USC 102(b) rejection as being anticipated by Tadayuki et al. '268.

Applicants argue on page 10 and page 17 of their Remarks that Tadayuki et al. '063 has disclosure "describing many different materials" that "would not have led one of

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ordinary skill in the art to the specific photosensitive polymer composition of the present claims.”

The Examiner respectfully disagrees and notes that it has been held that “[w]hen the compound is not specifically named, but instead it is necessary to select portions of teachings within a reference and combine them, e.g., select various substituents from a list of alternatives given for placement at specific sites on a generic chemical formula to arrive at a specific composition, anticipation can only be found if the classes of substituents are sufficiently limited or well delineated. *Ex parte A*, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990). If one of ordinary skill in the art is able to “at once envisage” the specific compound within the generic chemical formula, the compound is anticipated. One of ordinary skill in the art must be able to draw the structural formula or write the name of each of the compounds included in the generic formula before any of the compounds can be “at once envisaged.” One may look to the preferred embodiments to determine which compounds can be anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962).” Please see MPEP 2131.02. Given the explicit disclosure of Tadayuki et al. ‘063, the Examiner **clearly envisages** the 1,1,1,3,3,3-hexafluoropropane central group at least from [0038] of Tadayuki et al. ‘063. The Examiner notes that this same line of reasoning will apply to the current rejection of claims using the Tadayuki et al. ‘268 reference.

Applicants argue that Tadayuki et al. ‘063 do not teach or suggest any of the limitations of applicants’ claims 1, 2, 4-10, or 12-15.

The Examiner respectfully disagrees and notes that Tadayuki et al. '063 read on, i.e. suggest, all of the abovementioned claims, except for the requirement that each 'R' is hydrogen, thereby providing "hydroxymethyl" substituents on each phenyl ring, such as the "3,5-bis(hydroxymethyl)" of claim 2. The factual basis for each of the claim limitations has been set forth in section 8 of the Office action mailed on 04/14/2009. The Examiner maintains that Tadayuki et al. '063 suggest all of the claim limitations of claims 1, 2, 4-10, and 12-15 except for the requirement that each 'R' is hydrogen, thereby providing "hydroxymethyl" substituents on each phenyl ring, such as the "3,5-bis(hydroxymethyl)" of claim 2. Applicants have not explicitly shown where the Examiner has failed to teach each of the limitations, and therefore applicants' arguments are unconvincing in this regard pending further clarification.

Applicants argue that it would not have been obvious to one of ordinary skill in the art to use the teachings of Matsuishi et al. to rectify the deficiencies of Tadayuki et al. '063; specifically, they state that the two references are drawn to different technologies, i.e. non-analogous art.

The Examiner respectfully disagrees and notes that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an applicants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Matsuishi et al. is, therefore, a reasonably pertinent reference, because it

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teaches that their inventive compounds have use in photoresist materials, including providing heat resistance and water-repellency, which is a function especially pertinent to the invention at hand as well as that of Tadayuki et al. '063.

The photosensitive polymer compositions of Tadayuki et al. '063 are positive-type photoresist materials [0002] and [0007]. Matsuishi et al. is drawn to modifiers for photoresist materials that provide heat resistance and water-repellency. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the functional equivalent compound of Matsuishi et al. as the component (c) of Tadayuki et al. '063. These compounds are analogs; further, one of ordinary skill would know to make a series of compounds including the methoxymethyl and hydroxymethyl compounds. The motivation for using this compound in the photosensitive composition is the fact that Matsuishi et al. recognize it as good for photoresists and can provide enhanced water-repellency of resins formed from these compounds. For all of these reasons, it is respectfully submitted that Tadayuki et al. '063 and Matsuishi et al. are analogous art.

Applicants argue that different problems are addressed by Tadayuki et al. '063 and Matsuishi et al.

The Examiner respectfully disagrees and notes that both Tadayuki et al. '063 [0037] and Matsuishi et al. [0005] are both drawn to heat resistance of photoresist films. Please note that preventing melting as taught in Tadayuki et al. '063 clearly shows that heat resistance is a concern.

Applicants argue that the by having each 'R' be hydrogen in the compound of Formula (II) would destroy the reference Tadayuki et al. '063.

The Examiner notes that it has been held that "[a]n obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." Please see MPEP 2144.09, *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979), *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963), and *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991). Matsuishi et al. disclose compounds that are close in chemical structure; further, they suggest that these compounds will provide heat resistance. The Examiner maintains that it would have been obvious to one having ordinary skill in the art to have each 'R' of the component (c) be hydrogen as claimed. The results of such a substitution would have been predictable to one having ordinary skill. Given how close in structure "hydroxymethyl" and "alkoxymethyl" are, the Examiner has a reasonable basis to find that the modification proposed by the Examiner would not destroy the reference. The Examiner also notes with regard to [0037] of Tadayuki et al. '063 that the section does not specifically relate the properties of the component (c) with 'R' being alkyl specifically. It is referring to the compound in general, and therefore there is no evidence that substituting the alkyl with hydrogen would destroy the reference; furthermore, applicants have provided no evidence to show that the proposed modification would not continue to work for the intended purposes of Tadayuki et al. '063.

Applicants argue that even if the proposed combination of references was proper, the Declaration shows unexpected results over the prior art.

The Examiner respectfully disagrees and directs applicants' attention to the arguments concerning the Declaration filed 07/14/2009 in the fifth through eighth paragraphs of this section. The Examiner particularly notes that applicants are not comparing the closest prior art.

Applicants argue that the "Examiner does not traverse prior contention by Applicants that Matsuishi et al. is directed to a different field of endeavor, and addresses different problems;" further, they argue that the combination does not recognize an advantage recognized by applicants.

The Examiner respectfully disagrees and notes that although the inventions are not identical they are addressing similar problems and are analogous art as outlined above. The Examiner also notes that it has been held that "[i]t is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant." See MPEP 2144(IV) and, e.g., *In re Kahn*, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

In conclusion, the Examiner maintains that it would have been obvious to one having ordinary skill in the art to have each 'R' of Tadayuki et al. '063 be hydrogen as taught by Matsuishi et al.; further, the Examiner has a reasonable expectation that the modified compounds of Tadayuki et al. '063 would have similar properties given the close structural similarities; furthermore, the motivation to make such modified

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compounds is that they would exhibit enhanced heat resistance, which is a concern to Tadayuki et al. '063, Matsuishi et al., and applicants.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Examiner has cited a certified translation of Tadayuki et al. (JP 2001-312063) and the machine translation of the detailed description of Tadayuki et al. (JP 2000-305268).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-Th 10am-8pm est. (Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GERARD T. HIGGINS
Examiner
Art Unit 1794

/G. T. H./
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794